

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Canceled)

2. (Currently Amended) ~~The A method, as recited in claim 1~~ for etching a trench to a trench depth in a dielectric layer over a substrate, comprising:

_____ applying an ARC over the dielectric layer;

_____ forming a photoresist mask on the ARC, wherein the photoresist mask has a thickness,
wherein the forming the photoresist mask forms the photoresist mask to a thickness of between about 2000 Å and 4000 Å;

_____ etching through the ARC; and

_____ etching a trench into the dielectric layer with a dielectric to photoresist etch selectivity between 1:1 and 2:1.

3. (Original) The method, as recited in claim 2, wherein the forming the photoresist mask forms the photoresist mask of a 193 nm or newer generation photoresist.

4. (Original) The method, as recited in claim 2, wherein the photoresist mask is sensitive to aggressive etch chemistries with respect to line edge roughness control.

5. (Original) The method, as recited in claim 2, further comprising:

placing the substrate into an etch chamber with an opposing electrode placed opposite the

substrate; and

heating the opposing electrode so that the opposing electrode reaches a temperature of at least 140° C during the etching the trench into the dielectric layer.

6. (Original) The method, as recited in claim 2, wherein during the etching the trench the chamber pressure is maintained between about 60 mTorr and 400 mTorr.

7. (Original) The method, as recited in claim 2, wherein during the etching the trench a high frequency power source provides between 500 W and 2000 W.

8. (Original) The method, as recited in claim 2, wherein during the etching the trench a bias power source provides between 0 W and 1000 W.

9. (Original) The method, as recited in claim 2, wherein the etching the trench comprises providing an etchant gas selected from the group of CF₄, C₂F₆, NF₃, and SF₆.

10. (Original) The method, as recited in claim 9, wherein the etchant gas has less than 5% heavy polymer forming etchant gases.

11. (Currently Amended) A semiconductor device formed by the method according to claim 1-2.

12. (Original) A method for etching a trench to a trench depth in a dielectric layer over a substrate, comprising:

applying an ARC on the dielectric layer;

forming a sensitive photoresist mask on the ARC, with a thickness between about 2000 Å and 4000 Å;

etching through the ARC; and

etching a trench into the dielectric layer with a clean etch.

13. (Original) The method, as recited in claim 12, wherein the etch selectivity of dielectric to photoresist is between 1:1 and 2:1.

14-19 (Canceled)